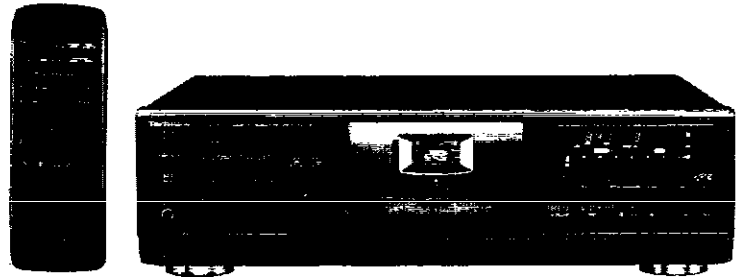


Technics

Digital compact cassette deck RS-DC8

Operating Instructions



DIGITAL
CCC
COMPACT CASSETTE

Note:

The "EB" indication shown on the packing case indicates United Kingdom.

Before connecting, operating or adjusting this product, please read these instructions completely.

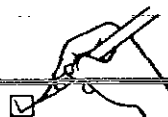
E EB GC GN

RQT2250-B

Dear Customer

Thank you for purchasing this Technics product.
For optimum performance and safety, please read
these instructions carefully.

Accessories



Please check and identify the supplied
accessories

Conventions used in these operating instructions

These operating instructions use the following conventions to help you to find information regarding the use of the cassette tapes.

DCC : This section provides information when a DCC (digital compact cassette) tape is used.

ACC : This section provides information when an ordinary ACC (analog compact cassette) tape is used.

Refer to page 29 for further information about DCC/ACC tapes.

(For areas except United Kingdom, Europe, Australia and N.Z.)

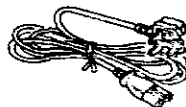
CAUTION:

The AC voltage is different according to the area.

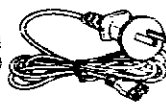
Be sure to set the proper voltage in your area before use.

(For details, please refer to the page 9.)

- ☐ AC power supply cord 1
(For United Kingdom) (For Australia and N.Z.) (For others)



(VJA0733)

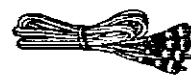


(RJA0036-K)

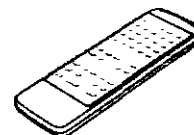


(RJA0019-2K)

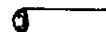
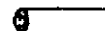
- ☐ Stereo connection cables 2
(SJP2249-6)



- ☐ Remote control transmitter 1
(RAK-DC712WH)



- ☐ Batteries 2
(UM-4, "AAA", R03)



- ☐ Power plug adaptor 1
(SJP5213-2)
(Not supplied for United Kingdom, Europe, Australia and N.Z.)

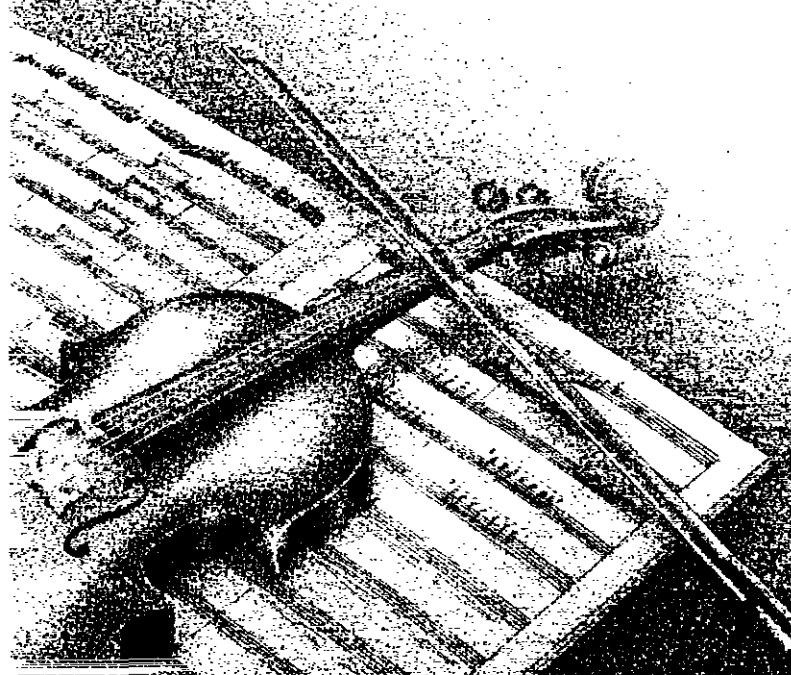


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Caution for AC mains lead

(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 5-ampere fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

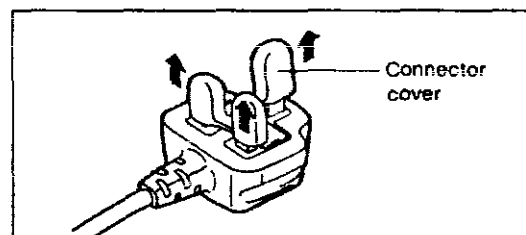
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol .

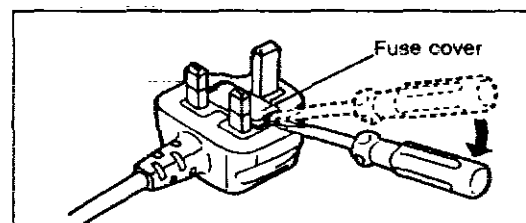
Before use

Remove the connector cover as follows.

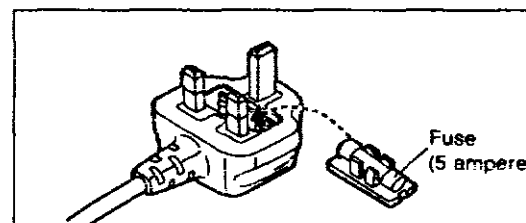


How to replace the fuse

1. Remove the fuse cover with a screwdriver.



2. Replace the fuse and attach the fuse cover.



Suggestions for safety

Placement

Avoid placing the unit in areas of:

- direct sunlight
- high temperature
- high humidity
- excessive vibration
- uneven surfaces (Place the unit on a flat level surface.)

Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.

Ventilation

- Place the unit in a well ventilated position at least 10 cms away from wall surfaces etc.
- Ensure that curtains and similar materials do not obstruct the ventilation holes.

Stacking

Never place heavy items on top of the unit or the power cord.

Voltage

- It is very dangerous to use an AC power source of high voltage such as for an air conditioner.
A fire might be caused by such a connection.
- A DC power source can not be used.
Be sure to check the power source carefully, especially on a ship or other place where DC is used.

Power cord protection

- Avoid cuts, scratches or poor connection of the AC mains cord, as this may result in fire or electric shock hazard.
Excessive bending, pulling or slicing of the cord should also be avoided.
- Do not pull on the cord when you are disconnecting the power, as this could cause an electric shock. Grasp the plug firmly when you disconnect the power supply.
- Never touch the plug with wet hands or a serious electric shock could result.

Foreign materials

- Ensure that no foreign objects, such as needles, coins, screwdrivers etc., accidentally fall into the unit or through the ventilation holes.
Otherwise, a serious electric shock or malfunction could occur.
- Be extremely careful about spilling water or liquid on/into the unit, as a fire or electric shock could occur.
(Disconnect the power plug and contact your dealer immediately if this occurs.)
- Avoid spraying insecticides onto the unit as they contain flammable gases which can be ignited.
- Insecticides, alcohol, paint thinner and similar chemicals should never be used to clean the unit as they can cause flaking or cloudiness to the cabinet finish.

Maintenance (See page 32.)

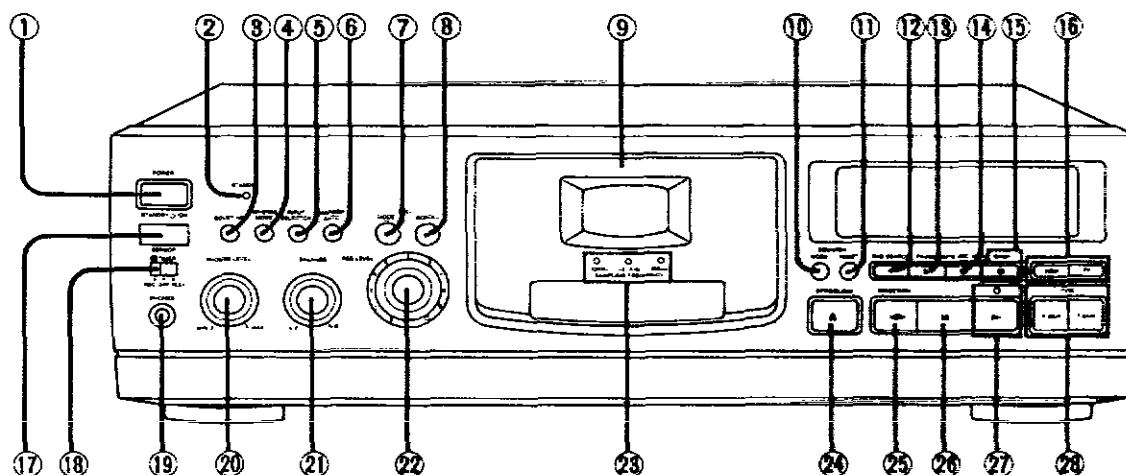
Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution.

Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

Service

- Never attempt to repair, disassemble or reconstruct the unit if there seems to be a problem.
A serious electric shock could result if you ignore this precautionary measure.
- If a problem occurs during operation (the sound is interrupted, indicators fail to illuminate, smoke is detected, etc) contact your dealer or Authorized Service Center immediately.
- Disconnect the power supply if the unit will not be used for a long time. Otherwise the operation life could be shortened.

Front panel controls



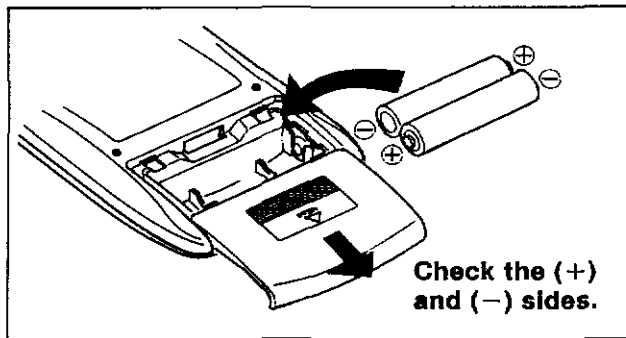
No.	Name	Ref. page
①	Power "STANDBY  /ON" switch (POWER, STANDBY  /ON)	10
②	"STANDBY" Indicator (STANDBY)	—
③	Dolby noise-reduction button (DOLBY NR)	11
④	Reverse-mode selection button (REVERSE MODE)	10
⑤	Recording input selection button (INPUT SELECTOR)	16
⑥	Automatic marker writing button (MARKER AUTO)	16
⑦	Text mode selection button (TEXT MODE)	13
⑧	Text scroll button (TEXT SCROLL)	13
⑨	Cassette holder	10
⑩	Counter mode selection button (COUNTER MODE)	14
⑪	Counter reset button (COUNTER RESET)	14
⑫	End search button (END SEARCH)	18

No.	Name	Ref. page
⑬	Pause button (PAUSE)	10,17
⑭	Automatic-record-muting button ( AUTO REC MUTE)	19
⑮	Record button/Indicator ( REC)	16
⑯	Rewind/fast-forward buttons (REW/FF)	12
⑰	Remote control signal sensor (SENSOR)	7
⑱	Timer switch (TIMER)	28
⑲	Headphones jack (PHONES)	12
⑳	Headphone level adjustment control (PHONES LEVEL)	12
㉑	Recording-balance control (BALANCE)	18
㉒	Recording-level control (REC LEVEL)	18
㉓	Sampling frequency indicators (SAMPLING FREQUENCY)	19
㉔	Open/close button ( OPEN/CLOSE)	10
㉕	Tape side selection button ( DIRECTION)	12
㉖	Stop button (	10,17
㉗	Playback button/Indicator (	10,16
㉘	Skip/TPS buttons (TPS/R.SKIP/F.SKIP)	14

Concerning the remote control

Battery installation

Insert the batteries included with this unit as shown below.



When you need to replace these batteries

Use two UM-4 "AAA", IEC R03 (1.5 V) or equivalent batteries.

Battery notes

Do not mix old and new batteries, or batteries of different types (carbon and alkaline, etc.).

Always remove old, weak or worn-out batteries promptly and dispose of them properly.

The average battery life is about one year.

Although the battery life varies depending on how often the device is used, you should generally replace the batteries about once a year.

The batteries should be replaced if commands from the remote control transmitter do not operate the unit even when transmitter is held close to the front panel.

Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.

If you will not use the remote control for a long period of time, remove the batteries and store them in a cool, dark place.

If a battery leaks, remove all batteries and dispose of them properly. Thoroughly clean the battery compartment before inserting new batteries.

If the leaking electrolyte comes into contact with skin or clothes, flush with water immediately.

Keep batteries out of reach of children.

Do not use rechargeable (nickel-cadmium) type batteries.

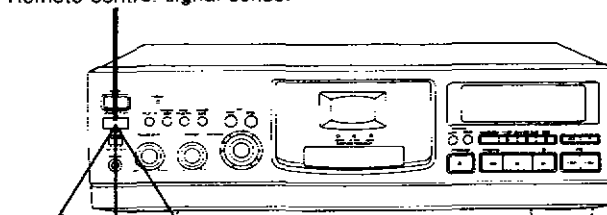
Do not attempt to recharge alkaline or carbon batteries.

Do not dispose of used batteries in household rubbish.

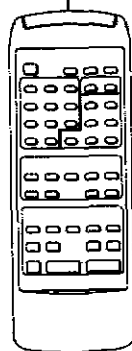
Method for use

Use the remote control within 60 degrees and within 7 meters (23 ft.) facing directly toward the remote control signal sensor.

Remote control signal sensor



Avoid any obstacles.



About 7 meters in front of the sensor. (The actual range will depend on the angle at which the remote control is used.)

Note

Be sure the transmission window and the unit's sensor are free from dust. Excessive dust might affect performance.

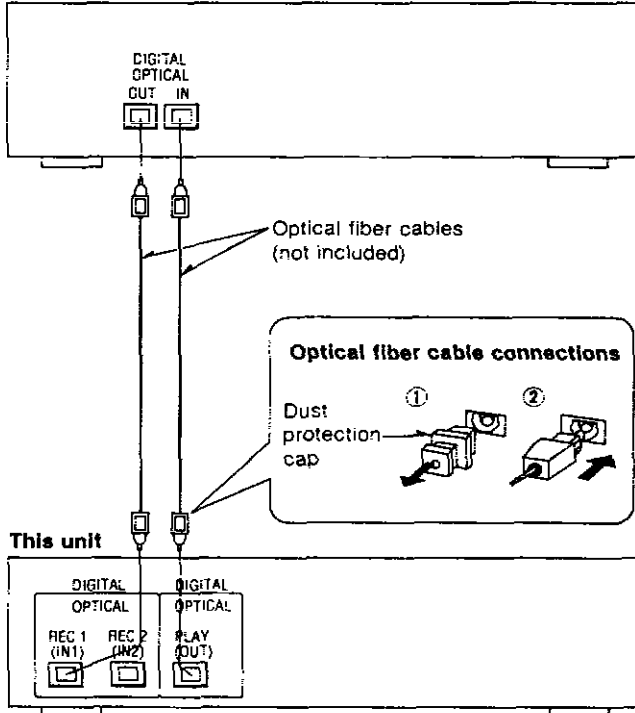
The operation may not be correct if direct sunlight or another strong light source strikes the receiving sensor of this unit. If there is a problem, place the unit away from the light source.

Connections

- Before connecting any components to the deck, make sure that they are all turned OFF.
- See the Operating Instructions of each component for detailed connection information.

Connecting the deck to an amplifier with digital optical terminals (Digital Connection)

Digital Amplifier (not included)



Note on connection using an optical fiber cable

For this connection, you can use the same type of optical fiber cable that you have used for your digital amplifier or CD player.

Note

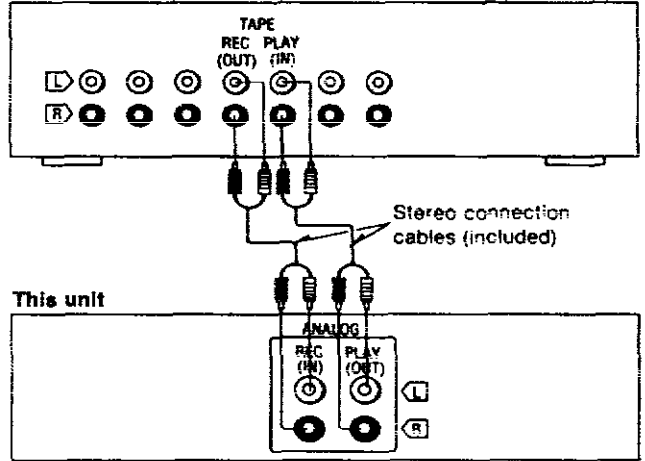
- Never force the optical fiber cables to bend excessively.
- Store the dust protection cap securely, and replace it whenever cables are not connected to the terminals.

Stereo connection cables

White (L) Red (R)

Connecting the deck to an amplifier without digital optical terminals (Analog Connection)

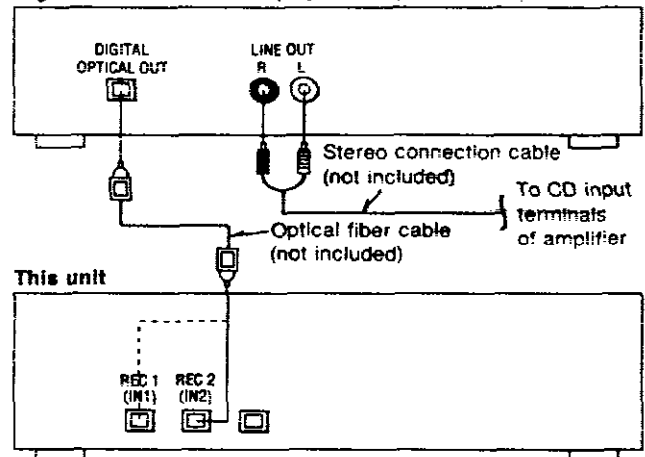
Amplifier (not included)



To digitally record directly from another digital source

Use the optical fiber cable to connect the optical recording input terminal [REC 1 (IN 1) or REC 2 (IN 2)] of this deck to the digital optical out terminal of the CD player, or a second DCC or DAT.

Digital source such as CD player, etc. (not included)



Note

When a component with recording capabilities is connected to the deck, be careful not to set both the component and the deck to the recording standby mode at the same time. This may result in a malfunction.

To connect the AC power supply cord

(For United Kingdom only)

BE SURE TO READ THE CAUTION FOR AC POWER SUPPLY CORD ON PAGE 4 BEFORE THE FOLLOWING CONNECTIONS.

(For areas except United Kingdom, Europe, Australia and N.Z.)

Set the voltage selector to the voltage setting for the area in which the unit will be used.

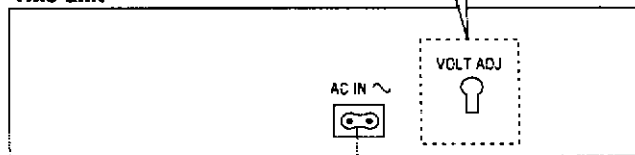
[Use a minus (-) screwdriver]

Note

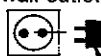
If the power supply in your area is 117 V or 120 V, set to the "127 V" position.

Note that this unit will be seriously damaged if this setting is not made correctly.

This unit

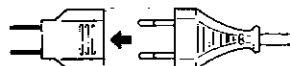


AC wall outlet



(For areas except United Kingdom, Europe, Australia and N.Z.)

If the power plug will not fit your socket, use the power plug adaptor (included).

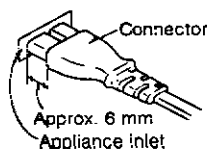


(For areas except Australia and N.Z.)

Insertion of Connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.

However there is no problem using the unit.

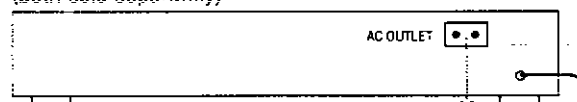


Connections for playback or recording using the timer

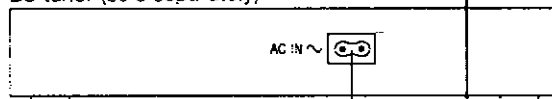
Connect the power cables between the deck and each unit as shown below. The diagram does not illustrate signal connections. (See the operating instructions of your timer for further information.)

(Example of a system configuration using a BS tuner)

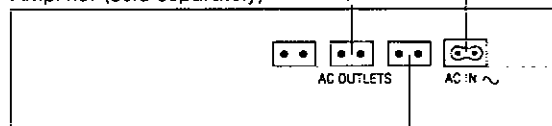
An audio timer or a tuner with timer
(both sold separately)



BS tuner (sold separately)



Amplifier (sold separately)



This unit



AC wall outlet



Notes on Installation

Do not install this deck near a tuner or TV.

Since this deck uses high-frequency signals, placing it near a tuner or TV may cause noise or interference with the tuner or TV reception.

This phenomenon may also occur when an indoor antenna is used with the tuner or TV. It is recommended that an outdoor antenna be used.

Playback of tape

Make sure that the Timer selector is set to the OFF position

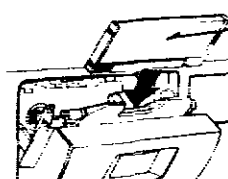
DCC You can use self-recorded DCC tapes and commercially sold DCC music tapes.

- 1 Press **POWER**.
(The deck is turned ON.)



The above message indicates that no cassette is loaded in the deck.

- 2 Press **OPEN/CLOSE** and load the DCC tape as shown below.

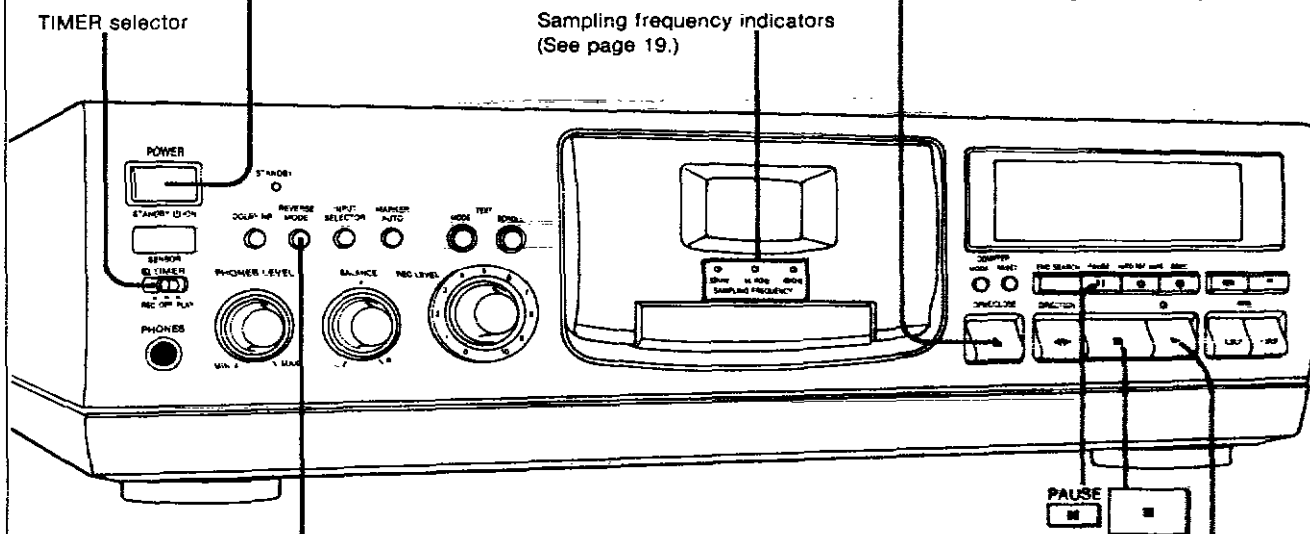


Load the tape with the label side facing toward you.

After the tape is loaded, the cassette compartment closes automatically.

For your reference

Refer to page 14 for further information about messages appearing on the display.



- 3 Press **REVERSE MODE** to select the desired reverse mode.

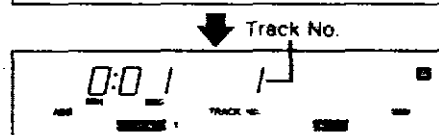
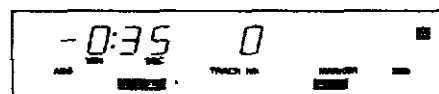
Each time this button is pressed, the reverse mode indicator "↶" or "↷" is displayed alternately.



- ↶ : Both tape sides are played, and then the tape stops automatically.
- ↷ : Playback of both tape sides is repeated up to 8 times, and then the tape stops automatically.

- 4 Press **▶**. (The indicator above the button lights up and playback starts.)

When the deck plays a DCC tape from its beginning, it takes a while for the deck to start playback since the deck reads the time information written onto the DCC tape.



To interrupt playback temporarily

PAUSE



Press **|| PAUSE**.

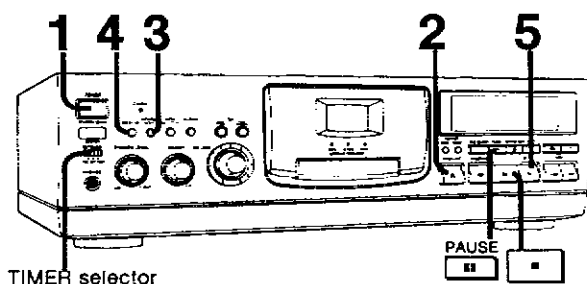
Press **▶** to continue playback (or press **|| PAUSE** again).

To stop playback



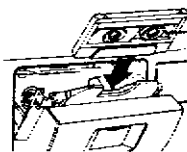
Press **■**.

ACC You can play ACC tapes such as normal, CrO₂ and metal tapes.



1 Press POWER. (The deck is turned ON.)

2 Press OPEN/CLOSE and load the ACC tape as shown below.



Forward side

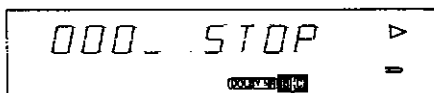
After the tape is loaded the cassette compartment closes automatically.

3 Press REVERSE MODE to select the desired reverse mode.

- ➡ : Both sides (forward side ➤ and backward side <➤) are played, and then the tape stops automatically.
- ↺ : Playback of both sides are repeated up to 8 times, and then the tape stops automatically.

4 Press DOLBY NR to select the specific type of Dolby noise-reduction system desired.

(Select the same type that was used for recording.)



Each time this button is pressed, the indication on the display changes in the following order:

B → **C** → No indication

Commercially sold ACC tapes with the Dolby NR (double-D symbol "DD") mark have been recorded with the Dolby B NR system. When using a tape that has not been recorded with the Dolby NR system, set the Dolby NR system to OFF (no indication on the display).

5 Press ►. (Playback starts.)

About the Dolby noise-reduction system **ACC only**

The Dolby noise-reduction system is designed to effectively reduce the annoying high-frequency "hissing" noise typical of cassette tapes. During recording, the system functions to increase the high-frequency sound level, the sound, and then, during playback, that same portion is weakened to bring it back to the previous level.

This unit includes two types of Dolby noise-reduction systems, the Dolby B NR-type and C NR-type.

Dolby B-type noise-reduction

Noise is reduced to about one-third.

Use this system when playing back tapes recorded by the Dolby-B noise-reduction system, such as prerecorded music tapes, etc.

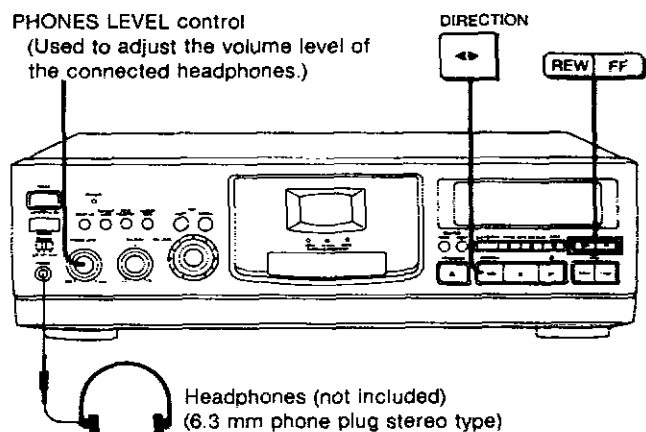
Dolby C-type noise-reduction

Noise is reduced to about one-tenth.

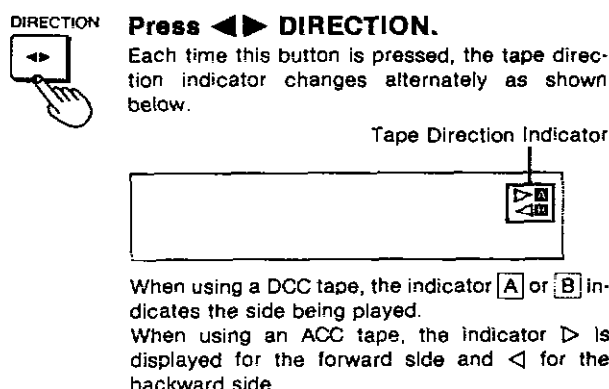
Use this system for the recording and playback of sound sources that have a wide dynamic range and good tone quality, such as FM broadcasts of live performances, etc., and for playing back such tapes.

Dolby noise-reduction manufactured under license from Dolby Laboratories Licensing Corporation
"DOLBY" and the double-D symbol **DD** are trademarks of Dolby Laboratories Licensing Corporation.

Playback of tape

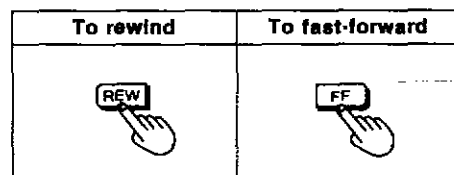


To change the tape side



To rewind and fast-forward the tape

Press REW or FF in the stop mode.



If the REW button is pressed at the end of the tape, or the FF button is pressed at the beginning of the tape, the tape will wind either backward or forward at a higher speed. (The indication "H" appears on the display during high-speed tape winding.)

For your reference

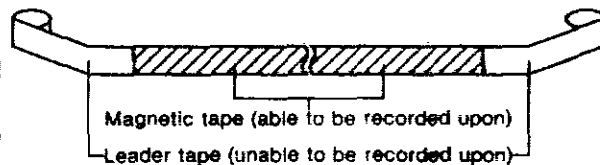
Sometimes, the high speed function will not be performed if either the FF or REW button is pressed in the middle of the tape.

When using the headphones

- Reduce the volume level with the PHONES LEVEL control and connect the headphones to the PHONES Jack of the deck.
- Avoid listening for prolonged periods of time to prevent hearing damage.

Quick Reverse Function **DCC only**

This function detects the leader tape (transparent tape) and changes the tape direction for playback (recording) automatically in about 1 second.



This leader tape detecting function becomes operational about 15 seconds after playback (or recording) starts. This function prevents the leader tape from being detected when playback (or recording) starts from the beginning of the tape. If this function does not work, the tape will reverse at the end.

Note

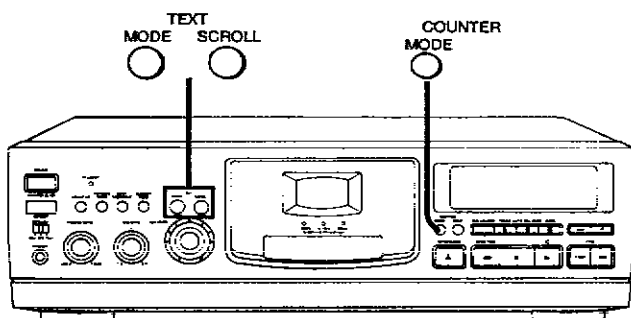
- This function may not work correctly in the following cases:
 - When tapes with colored leader tapes are used.
 - When dirty tapes or tapes with a very thin magnetic coating are used, and
 - When the deck's cassette compartment is exposed to strong light such as direct sunlight.
- This function may not work depending on the type of DCC tapes.

Changing the information of the display **DCC only**

To change the display of text information display

On the display, the text information (such as the album title, artist name, track title, etc.) which has been written onto a commercially sold DCC music tape can be displayed.

The deck can also display text information which you have personally written onto a self-recorded DCC tape. (See page 26.)



Press TEXT MODE during playback.

How to display text information of a commercially sold DCC music tape:

Pressing the TEXT MODE button changes the text information on the display in the following order:

ALBUM TITLE → ARTIST → TRACK TITLE

① Album title

ALBUM TITLE → PIANO WORKS
(Several seconds later)

② Artist name

ARTIST → BEETHOVEN
(Several seconds later)

③ Current track title

TRACK TITLE → MOONLIGHT
(Several seconds later)

If no text information has been written on the tape or before text information is read,

"-----" will appear on the display.

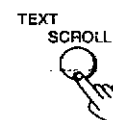
Using a self-recorded DCC tape

Each time the TEXT MODE button is pressed, text information that has been written by the procedure described on page 26 is displayed after the "TEXT 1", "TEXT 2", "TEXT 3" or "TEXT 4" indications.

Note

Text information is written onto the beginning of each track of your recorded DCC tape. Therefore, if you start playback midway through the track, you cannot display the text information from that track.

When a line of text information has been written using 12 characters or more,



Press TEXT SCROLL.

The characters will advance sequentially.

To display time information

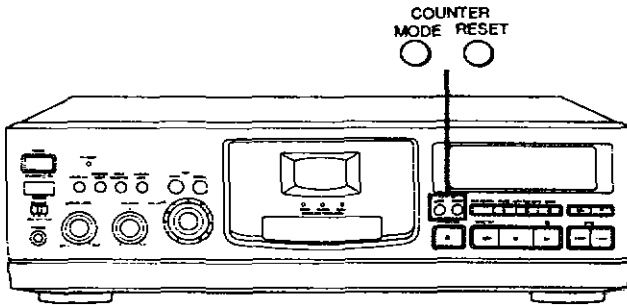


Press COUNTER MODE.

Changing the information of the display **DCC only**

To change time information on the display

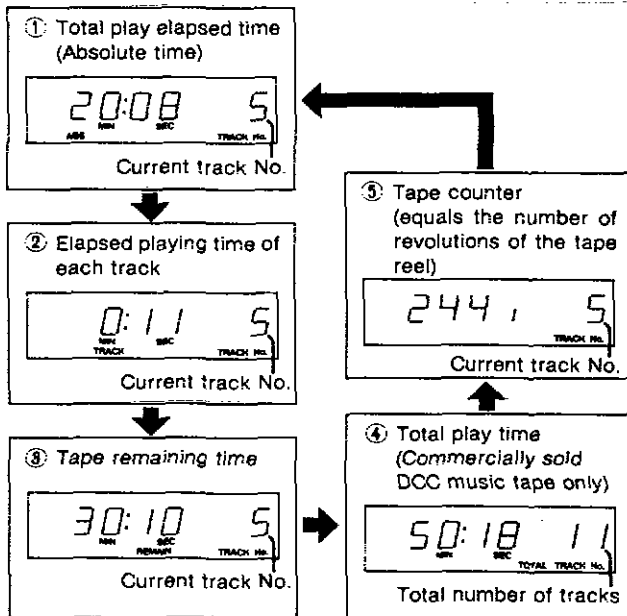
If you are using an ACC tape, only the tape counter indication will be displayed.



COUNTER
MODE

Press COUNTER MODE.

Each time this button is pressed, the display is changed in the following order:



The display "-----" appears if the track No. or time information is not written onto the tape correctly.

For your reference

- The absolute time (the total playing elapsed time) contains unrecorded segments between each track. Therefore, when a commercially sold music tape is played, the absolute time indicated on the display may be several seconds longer than the total play elapsed time listed on the commercially sold music tape label.
- If the side is changed during playback or the FF or REW button is pressed, the tape remaining time display is changed to the "-----" display.

To reset the tape counter to "000"

COUNTER
RESET

Press COUNTER RESET in the tape counter mode.

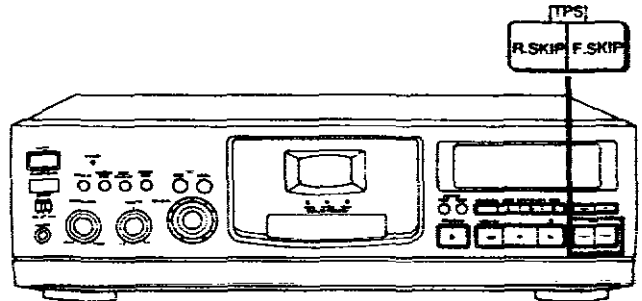
The counter display returns to "000."

Playback of the desired track

Skip play

DCC The Skip Play function allows you to access the desired track marked with a START marker.

ACC The TPS (Tape Program Sensor) function allows you to access the desired track by detecting the interval (unrecorded segment) between tracks.



[TPS]
R.SKIP F.SKIP

■ To skip to the beginning of the current track or the previous track
Press R.SKIP.

■ To skip to the beginning of the following track
Press F.SKIP.

Tracks are skipped according to the number of times the R.SKIP or F.SKIP buttons are pressed.

- When the R.SKIP or F.SKIP button is pressed in the stop (or pause) mode, the deck will return to the stop (or pause) mode after the R.SKIP or F.SKIP is performed.
- Up to 99 tracks can be skipped.

Note

The Skip play may not function properly in the following cases:

When a DCC tape is used

When two START markers are written too close each other.

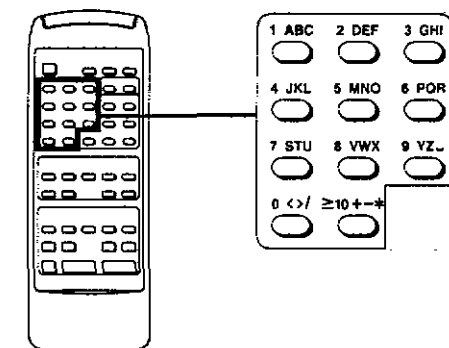
When an ACC tape is used

- when the length of a blank section or the interval between tracks is 3 seconds or less.
- when there is a section with an extremely low volume level or unrecorded segment in the recording.
- when the R.SKIP or F.SKIP button is pressed within 10 seconds after the beginning of a current track, or before the beginning of the following track.
- when the tape has been recorded with fade-ins (gradual increase in signal strength) and fade-outs (gradual loss of signal).

Accessing to song tracks by their track Nos. **DCC only**

This function works only with commercially sold DCC music tapes or self-recorded DCC tapes onto which track Nos. have been written.

(With Remote Control Only)

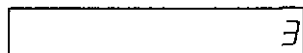


3 GHI



Input the desired track No. with the alphanumeric buttons on the Remote Control.

Example: If track No. "3" is input during playback,

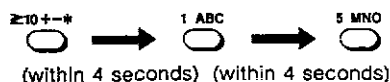


The deck locates the beginning of the designated track and then returns to its previous mode (i.e. playback, stop or pause).

■ To select track Nos. 10–99

Press the " ≥10+-* " button and then input the desired track No.

Example: To input "15", press the following buttons within 4 seconds.

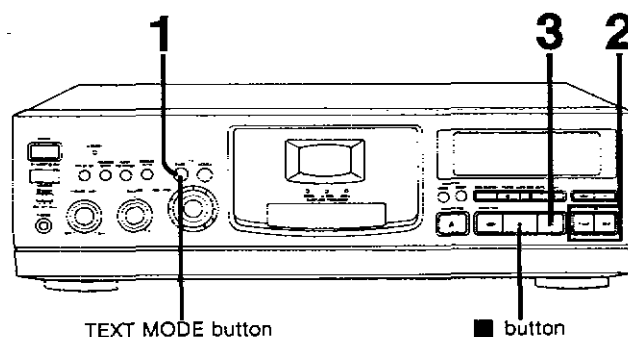


• Up to 99 tracks can be selected.

Selecting tracks by their track titles **DCC only**

This function is operational only with commercially sold DCC music tapes.

Up to 16 tracks can be selected by their track titles.



TEXT MODE button

■ button

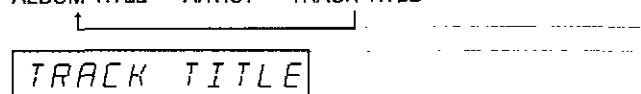
Before operation

Press TEXT MODE to let the deck read text information and then press ■ button.

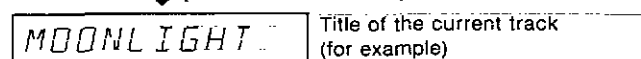
1 Press TEXT MODE until the "TRACK TITLE" indication appears on the display.

Each time this button is pressed, the display changes in the following order:

ALBUM TITLE → ARTIST → TRACK TITLE



↓ (After several seconds)

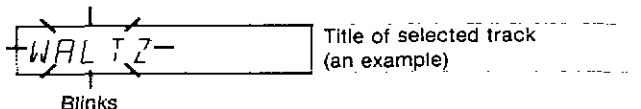


Title of the current track
(for example)

2 Select the desired title by pressing the R.SKIP or F.SKIP.

Press R.SKIP to change the track title display to the reverse direction.

Press F.SKIP to change the track title display to the forward direction.



Title of selected track
(an example)

Blinks

3 Press ► while the track title display blinks (this lasts for about 10 seconds.)

The deck locates the track of the designated track title and starts playback.

• When the ► button is not pressed within the 10 seconds while the track title is blinking, the display returns to the display mode of operation step 1 above.

For your reference

After 17 tracks or more, select the desired track by track No. In this case, the track title will appear on the display after the playback starts.

You cannot record onto a tape with the erasure-protect switch set to the protect position (closed position) (see page 29) or commercially sold DCC music tapes.

Make sure that the **TIMER** selector is set to the **OFF** position.

Preparation Turn on the deck and load a recordable DCC tape into it with the label side facing toward you.

3 Select recording input mode by pressing **INPUT SELECTOR**.

Each time this button is pressed, the indication on the display changes in the following order:

DIGITAL 1 → DIGITAL 2 → ANALOG

DIGITAL 1: Recording through the "DIGITAL 1" terminal

DIGITAL 2: Recording through the "DIGITAL 2" terminal

ANALOG: Recording through the "ANALOG" terminals

2 Select the marker writing mode by pressing **MARKER AUTO**.

(See next page for further information about the marker writing mode.)

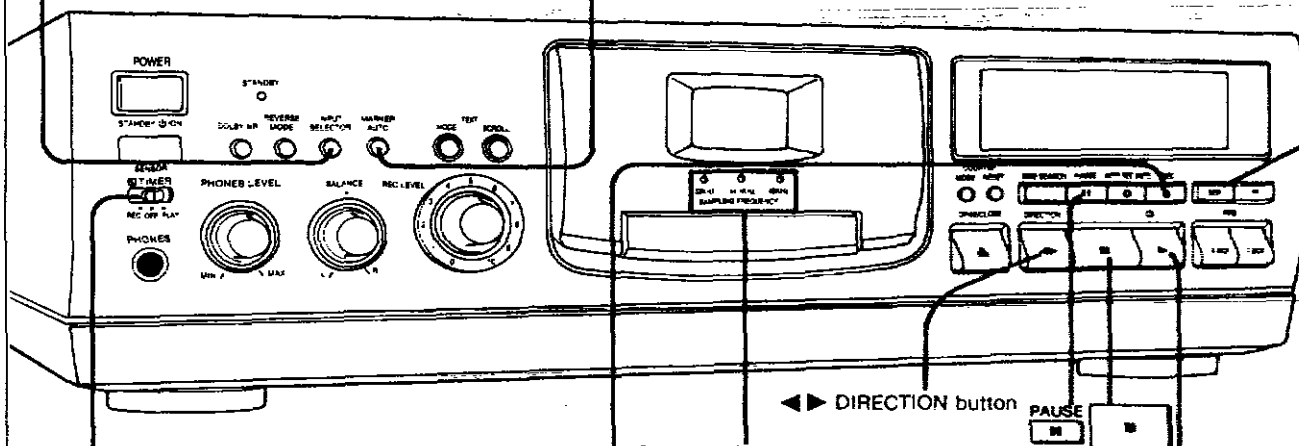
For normal use, select the **AUTO** mode.

1 [After selecting side A with **◀▶ DIRECTION** button.]

Press REW to fully rewind the tape to its beginning.

Note

- Be sure to press **REW** so that the absolute time (see the bottom of the next page) can be written onto the tape correctly.
- Do not press any other button until the tape stops automatically after tape rewinding.



TIMER selector

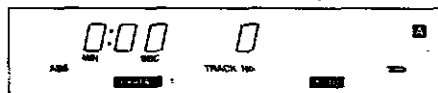
Sampling frequency indicators
(See page 19.)

4 Press **● REC**.

(The LED above the **● REC** button lights up.)

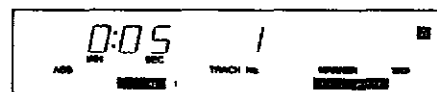
There is a 10-second "lead-in area" written onto the tape (see page 19). This is a digital process unique to DCC tapes. Then, the deck is set to the recording standby mode. (The LED above the **▶** button lights up.)

Display after lead-in area writing is finished



If you've selected the **ANALOG** input in operation step 3 above, be sure to adjust the recording level/balance before proceeding to step 5 according to the section "Adjusting the recording level/balance" on page 18.

5 Press **▶** to start recording and then, start playing the recording source.



Recording stops at the end of side B irrespective of the **REVERSE MODE** button setting (**↺** or **↻**)

Note

Do not press the **INPUT SELECTOR** button during recording to change the recording input mode.

Marker writing mode

In addition to the audio signals or time information, you can write a "marker" that controls the tape movement onto the tape. (See pages 20 and 21.)

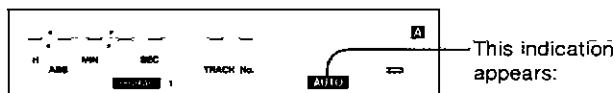
There are two types of marker writing modes: AUTO and MANUAL. These can be selected by pressing the MARKER AUTO button.

In the AUTO writing mode:

The **AUTO** indicator appears on the display.

In the MANUAL writing mode:

The **AUTO** indicator disappears.



AUTO writing mode

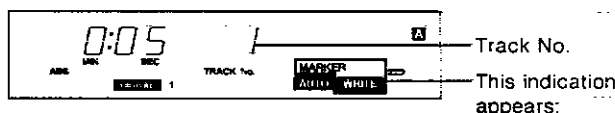
The "START marker" that marks the beginning of each track (including the track No.) is written automatically onto the tape in the following cases:

This is helpful when recording from a DCC music tape, CD or DAT which contains track Nos.

- When the input signal contains a signal indicating the beginning of a track. (Only during digital input recording)
- When there is an unrecorded segment or a section with an extremely low level for 3 seconds or more (i.e. at which the peak level meter does not fluctuate).

For your reference

If you repeatedly record the same track of a CD with the digital input using the CD player's repeat play function, the START marker may not be written onto the second recording of the track.



After finishing recording by pressing the **■** button, the END marker indicating the recording end position is written onto the tape automatically.



During playback, when the tape comes to the position where the END marker is written onto the tape, the deck operates according to the REVERSE MODE button setting as shown below:

In  mode: Tape stops at the END marker position.

In  mode: Tape is played repeatedly from the beginning of the tape to the END marker position 8 times, and then stops automatically.

MANUAL writing mode

Only the first START marker is written onto the tape. Additional START markers are not written onto the tape automatically.

Therefore, select the MANUAL writing mode when recording a source which does not contain track Nos. (such as BS broadcast), or when you want to write markers manually onto a desired position during the recording of a CD.

Refer to pages 22–24 on how to write markers when you select the MANUAL writing mode.

To interrupt recording temporarily



Press  PAUSE.

Press  to continue recording (or press  PAUSE again).

To stop recording



Press .

It takes about 2 or 3 seconds until the deck stops completely.

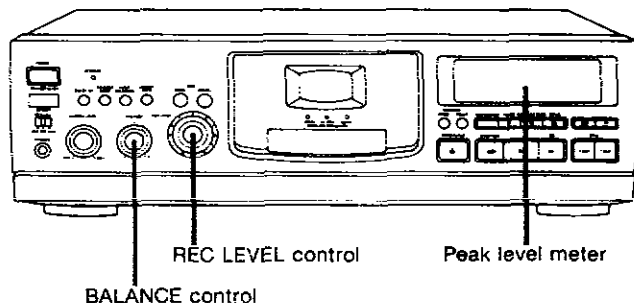
What is absolute time?

Absolute time is the total elapsed time of recording or playback from the beginning of the tape to the current tape position. If the absolute time is not recorded correctly, it is not possible to check the current tape position or locate the desired tape position accurately.

Your attention is drawn to the fact that recording prerecorded tapes or discs on other published or broadcast material may infringe copyright laws.

Adjusting the recording level/ balance (only during ANALOG input mode)

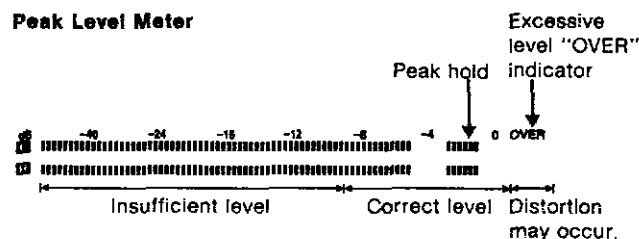
This adjustment should be made after pressing the ● REC button (step 4 of recording on page 16). Make sure that the deck is in the recording standby mode, start playing recording source and make adjustments as follows:



Recording level adjustment

By observing the peak level meters, rotate the REC LEVEL control so that the indicators reach "0 dB" at the track's peak level as closely as possible without exceeding it. The scale bar of the meter holds the peak level for about 1 second. This function lets you know the maximum input.

Peak Level Meter



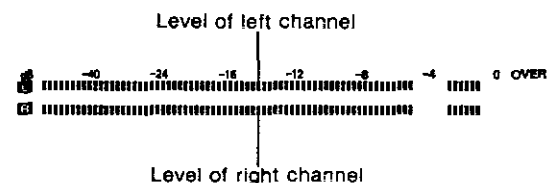
Note

If the level meter exceeds "0 dB" and reaches the "OVER" indication, sound at this level will be distorted during playback

Recording balance (left/right) adjustment

Set the BALANCE control to the center position for recording from a regular stereo source.

If the balance of the left and right channels have to be adjusted for recording, e.g. from a monaural source, make adjustments by observing the left-right balance of the peak level meter.



Append editing

This function enables you to append (join) a new recording to the end of an existing recording on the tape with consecutive absolute time.

It is necessary to record the absolute time (see page 17) sequentially without interruption onto the tape if you want to write the track Nos and time information up to the end of the tape.

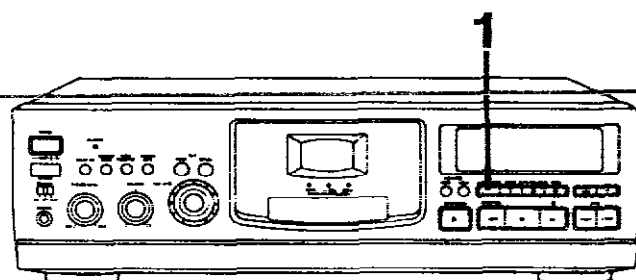
To write the absolute time onto the tape sequentially, perform the END SEARCH operation before starting recording as shown below.

What is END SEARCH?

This function detects the tape position automatically where the previous recording ended (i.e. where the END marker was written onto the tape).

Note

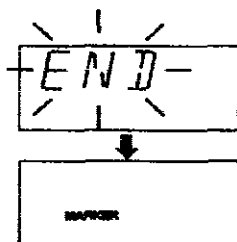
When using a tape onto which any END marker has not been written, (in other words, a tape recorded in the MANUAL writing mode), be sure to write the END marker at the end of the previous recording. (See page 23.)



[In the stop mode at any tape position,]

1 Press END SEARCH.

The END SEARCH locates the tape position where the END marker is written and then stops the tape.



2 Start recording by following steps 2-5 on page 16.

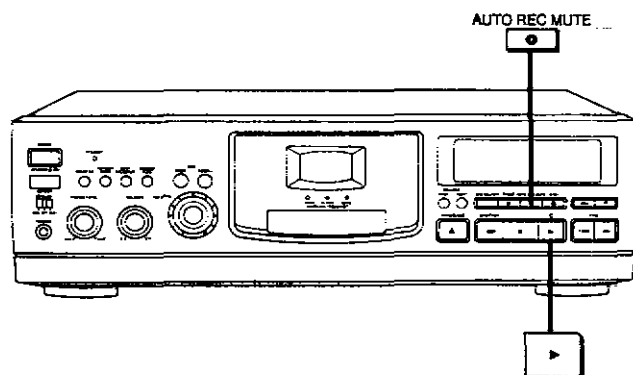
The END marker written onto the tape where the Append Editing starts is erased and a new START marker (including track No.) is written.

For your reference

- The END SEARCH also detects blank segments where both audio and control signals have not been recorded for about 10 to 30 seconds, and the deck then stops the tape. If you perform the Append Editing from this position, the track No. may not be written onto the beginning of a track.
- When there is more than one END marker (or 10-to-30-second blank intervals on the tape as mentioned above), the first END marker or the blank intervals are detected and the deck automatically stops the tape.

To create unrecorded segments (blank interval):

You can make a 4-second unrecorded segment or 4-second blank interval between tracks to avoid recording unwanted materials during recording of broadcasts with a BS tuner, etc.



To make a 4-second unrecorded segment

AUTO REC MUTE



Quickly press AUTO REC MUTE during recording.

The tape will advance for 4 seconds without recording audio signals and the deck will be set to the recording standby mode automatically.

To make a unrecorded segment more than 4 seconds

AUTO REC MUTE



Hold AUTO REC MUTE pressed as desired.

Releasing this button automatically sets the deck to the recording standby mode.

To continue recording



Press ►.

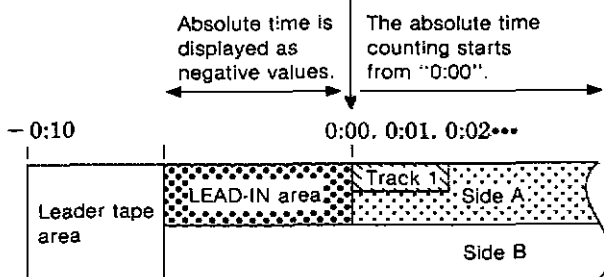
For your reference

The START marker (including track No.) is written onto the tape position where recording resumes.

LEAD-IN Area

The LEAD-IN area between the leader tape and the beginning of the first track is an area where control signals (for ensuring correct playback) of digital audio signals are written. When the deck's ● REC button is pressed with the tape fully re-wound, the control signals are written in this area.

Beginning of 1st track



Sampling frequency indicators

Because the deck has three types of sampling frequencies for digital signals (i.e. 48 kHz, 44.1 kHz and 32 kHz), the deck can perform recording of digital signals from not only CDs but also from DAT and other digital sources.

The sampling frequency indicators light up according to the current sampling frequency of input signals.

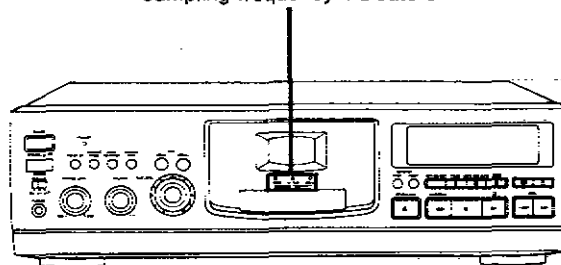
48 kHz: Used for DAT tapes recorded with analog input signals, etc.

44.1 kHz: Used for CD, commercially sold DCC music tapes or analog-recorded DCC tapes, etc.

32 kHz: Used for a source with a sampling frequency of 32 kHz.

(The 44.1 kHz indicator lights up during analog input recording.)

Sampling frequency indicators



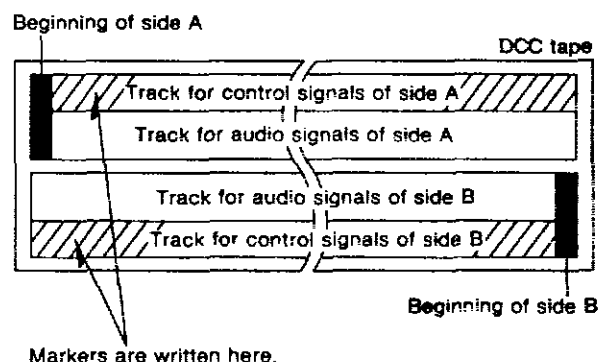
Markers (type and function) **DCC only**

You can write various markers onto the tape (control signals for tape movement) that are helpful for editing onto the DCC tape in addition to the audio signals and time information. Five types of markers can be written onto the DCC tape in the two writing modes (AUTO and MANUAL): These are as follows:

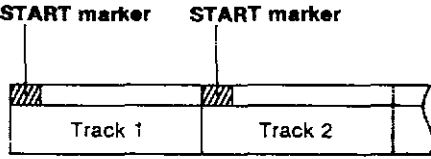
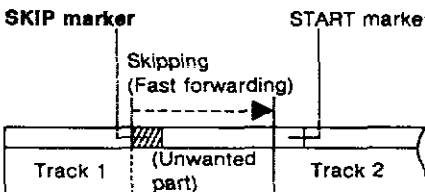
Note

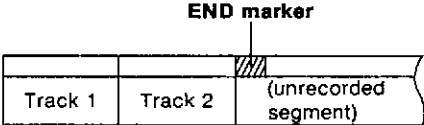
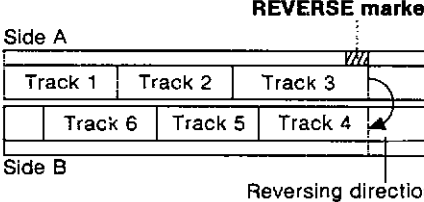
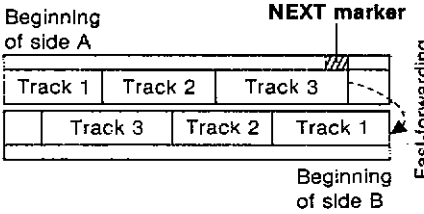
You cannot add any markers to a commercially sold DCC music tape.

Position where a marker can be written



You cannot write more than one marker onto the same position, or onto positions set very closely to each other.

Purpose	Marker name	Function	AUTO Writing	MANUAL Writing	
				During recording	After recording
To access the desired track (Skip play)	START marker	This is used to mark the beginning of each track and enables you to access the desired track during Skip play. 	Operational (See page 17.)	Operational (See page 22.)	Operational (See page 22.)
To skip unwanted material such as commercials or unrecorded segment during playback	SKIP marker	This is used to mark the beginning of the unwanted material or inaudible parts you want to skip after recording is finished. This part will fast forward to the next track marked with the START marker automatically. 	Non-operational	Non-operational	Operational (See page 22.)

Purpose	Marker name	Function	AUTO Writing	MANUAL Writing	
				During recording	After recording
To mark the end position of recording (This is helpful for Append Editing.)	END marker	The deck accesses the end of previous recording when the END SEARCH is performed (see page 18). This enables you to perform Append Editing from this point. 	Operational (See page 17.)	Non-operational	Operational (See page 23.)
To skip the remaining unrecorded segment of side A, and then access side B in order to continue recording or playback quickly.	REVERSE marker	During recording or playback of side A, the tape side is reversed to B at the position marked with the REVERSE marker on side A. (This marker cannot be written onto side B.) 	Non-operational	Operational (See page 23.)	Operational (See page 23.)
To fast forward the tape automatically from the remaining unrecorded segment of side A to the beginning of side B (This is helpful to separately record different albums onto side A or B.)	NEXT marker	During recording or playback of side A, the tape is fast forwarded from the position marked with the NEXT marker to the beginning of side B. (This marker cannot be written onto side B.)  Note The first track on side B is recorded as track 1, and the absolute time writing starts from 0:00.	Non-operational	Operational (See page 24.)	Operational (See page 24.)

Renumbering function

The markers written onto the tape are checked and all track Nos. are renumbered in sequence automatically by this function. After writing markers in the MANUAL writing mode, be sure to renumber after the writing is finished. (See page 24 for further information.)

Marker writing in MANUAL mode **DCC only**

Before writing markers

- Set the erasure-protect switch on the DCC tape to the record position. (See page 29.)
- Select the MANUAL writing mode. (See page 17.)

To write the **START** marker

(during or after recording)

This is used to access to the desired track.

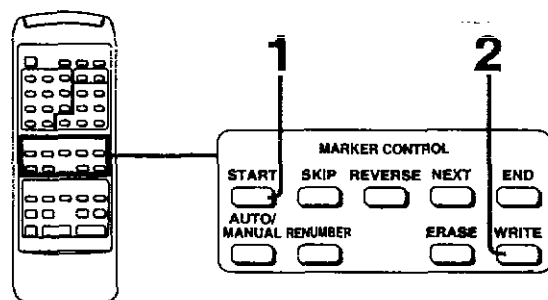
To write the **SKIP** marker

(after recording)

This is used to skip unwanted material during playback.

To write during recording

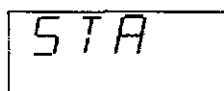
(With Remote Control Only)



[During recording, before the position where you want to write,]

1 Press **START**.

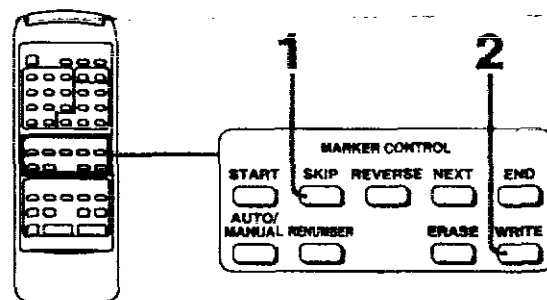
Press again when you want to delete the "STA" display.



2 Press **WRITE** at the desired position.



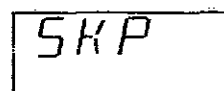
(With Remote Control Only)



[During playback, when you are right before the position where you want to write,]

1 Press **SKIP**.

Press again when you want to delete the "SKP" display.



2 Press **WRITE** at the desired position.

(Playback sound is not heard while the marker is being written.)



To write after recording is finished

[During playback, before the position where you want to write,]

1 Press **START**.

2 Press **WRITE** at the desired position.

(Playback sound is not heard while the marker is being written.)

For your reference

In the pause or stop mode, you can also write the **START** marker onto the tape using the same operation as instructed above.

For your reference

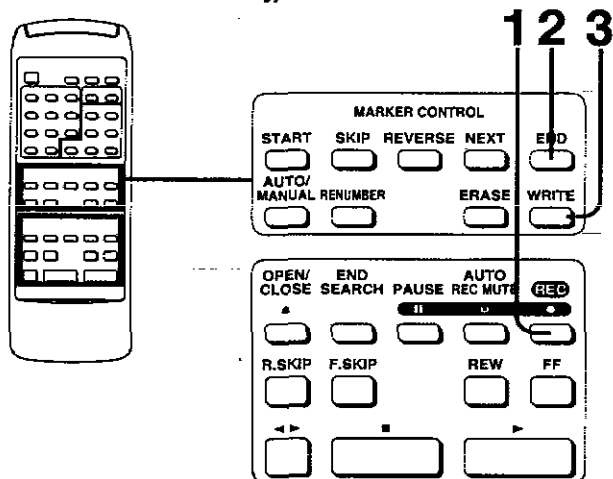
In the pause or stop mode, you can also write the **SKIP** marker onto the tape using the same operation as instructed above.

Track numbers cannot be input if the **START** marker is written after recording. Be sure to do the renumbering after the marker writing is finished. (See page 24.)

To write the **END** marker (after recording)

This is used to mark the end position of recording.

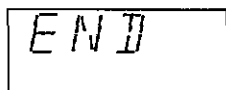
(With Remote Control Only)



[At the position where you want to write the marker, after stopping the tape,]

1 Press ● REC to set the deck to the recording standby mode.

2 Press END.
Press again when you want to delete the "END" display.



3 Press WRITE.



After writing is completed, the deck changes from the standby mode to the stop mode.

For your reference

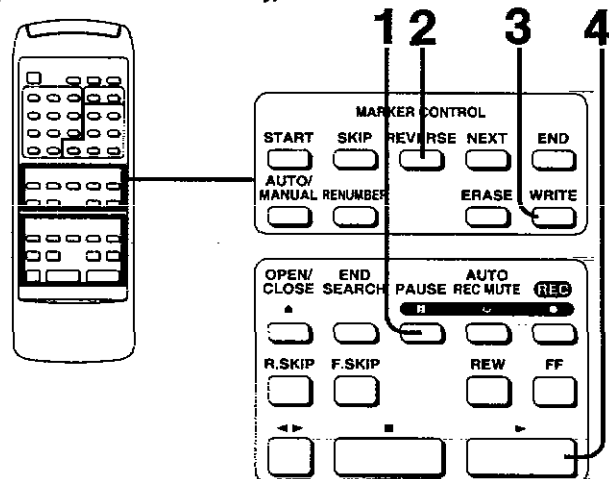
The END marker written onto the tape does not allow further playback of the next part. If you wish to play the tape after the END marker, press the FF button to advance the tape and then play.

To write the **REVERSE** marker (during or after recording)

This is used to skip the remaining part of side A and continue recording onto side B quickly.

Writing during recording

(With Remote Control Only)

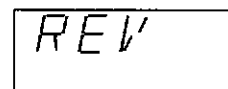


[During recording on side A, at the desired position where you want to change to side B,]

1 Press || PAUSE to set the deck to the recording standby mode.

Also, temporarily stop the playing of a source such as a CD player, etc.

2 Press REVERSE.
Press again when you want to delete the "REV" display.



3 Press WRITE.
The recording side changes to side B and the deck remains in the recording standby mode.



4 Press ► to start recording.
Resume the playing of a source such as a CD player, etc.

For your reference

You can make a recording continuously from side A to side B without having to write the REVERSE marker (as instructed above), if you have no time to pause the deck during recording a broadcast.

Press the ◀▶ button to change the recording side to side B. In this case, the REVERSE marker is temporarily written onto side B. Be sure to do the renumbering after recording is finished in order to rewrite the correct REVERSE marker onto side A.

Writing markers after recording

Press the ● REC button at the desired position where the REVERSE marker is to be written, and follow operation steps 2 and 3 above.

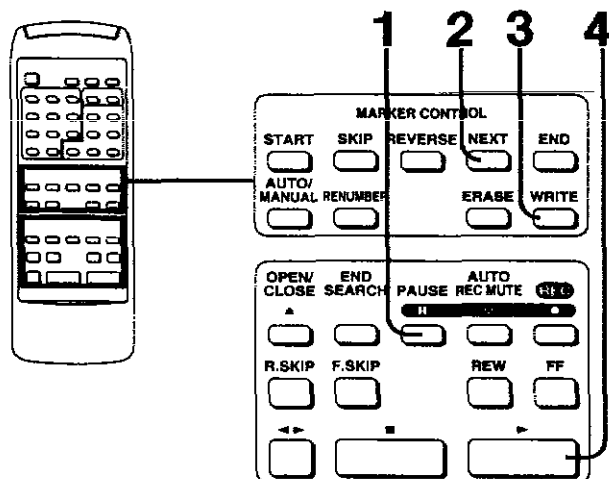
Marker writing in MANUAL mode **DCC only**

To write the **NEXT** marker (during or after recording)

This is used to mark the beginning of the remaining unrecorded segment of side A when you want to fast forward to the beginning of side B immediately.

Writing markers during recording

(With Remote Control Only)



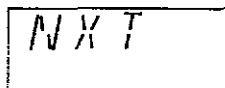
[While recording on side A, at the position where you want to fast-forward the tape to side B,]

1 Press **II PAUSE** to set the deck to the recording standby mode.

Stop the playing of a source such as a CD player, etc

2 Press **NEXT**.

Press again when you want to delete the "NXT" display.



3 Press **WRITE**.

The tape will fast forward to the beginning of side B.



4 (Then, it will be set to the recording standby mode at the beginning of side B.)

Press **▶**.

Continue the recording.

(OR)

If you wish to stop recording, press **■**.

Note

The first track on side B is written as the first track (track No. 1) and the absolute time is written from "0:00".

Writing after recording

Press the **● REC** button at the desired position where you wish to write the **REVERSE** marker in order to set the deck to the recording standby mode and follow operation steps 2 and 3 above.

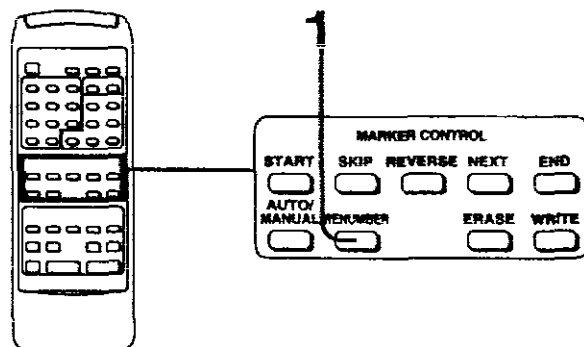
To perform the renumbering function

Renumbering must be performed after MANUAL writing and/or erasing of markers has been completed.

Renumbering has the following functions:

- To add track Nos. to **START** markers written in the MANUAL mode.
- To renumber sequentially the tracks that are no in order after markers are written or erased.
- To rewrite the **REVERSE** marker that was temporarily written from side B onto side A.

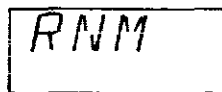
(With Remote Control Only)



[In the stop mode, at any tape position,]

1 Press **RENUMBER**.

Renumbering starts. When the following procedures are finished, renumbering is completed.



Renumbering procedure:

- ① The tape should be fully rewound to the beginning of side A.
- ② Track Nos. are renumbered sequentially while the tape is moving.
 - The tape is fast forwarded except at the position marked with the **START** marker.
 - The tape moves according to the **REVERSE** and/or **NEXT** marker instructions written onto the tape.

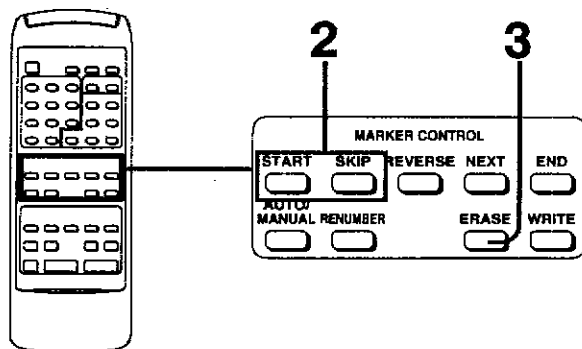
It takes some time for the deck to complete renumbering because the deck checks each track number.

- ③ After renumbering is finished, the deck fully rewinds the tape to the beginning of side A and stops.

Erasing Markers DCC only

START or SKIP markers can be erased according to your needs.

(With Remote Control Only)



To observe the marker's tape position, press the COUNTER MODE button to select the tape counter mode. (See page 14.)

1 Play the tape and locate the marker to be erased.

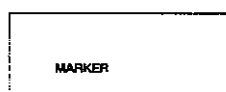
To erase the START marker

The "MARKER" indication appears on the display for about 3 seconds when the tape comes to a position where a START marker is located. Stop playback at this position.

To erase the SKIP marker

When the tape comes to the position marked with the SKIP marker, fast-forwarding starts.

Write down that tape position by reading the tape counter. Then, rewind the tape to 2 or 3 counts (counter reading) before that position.



2 Press START or SKIP depending on the marker you wish to delete.

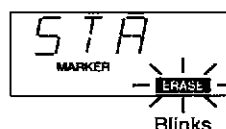
Press again when you want to delete the "STA" or "SKP" display.



(Example of START marker)

3 Press ERASE.

When a marker is deleted, the **ERASE** indication stops blinking and remains lit for a while and then goes off.



If the **ERASE** indication disappears before coming to a marker to be erased, (the **ERASE** will blink for about a maximum of 10 seconds), the marker cannot be erased. If this occurs, press the ERASE button again.

Be sure to renumber the markers after erasing them. (See previous page.)

Note

If the tape position passes the position of the marker that you wish to be deleted, and the ERASE button is pressed, possible erasure of the next marker may occur.

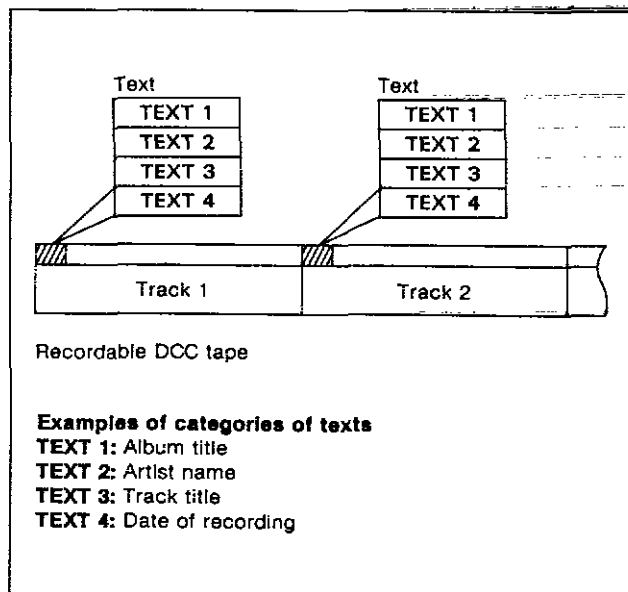
For your reference

New records over the existing records erase all markers (START, SKIP, END, REVERSE and NEXT) written to the tape.

Writing text information onto the tape **DCC only**

You can write text information such as album title, artist name or track title, etc. onto your recorded DCC tape.

There are 4 categories of text information (TEXT 1 – TEXT 4) that can be written onto the beginning of each track.

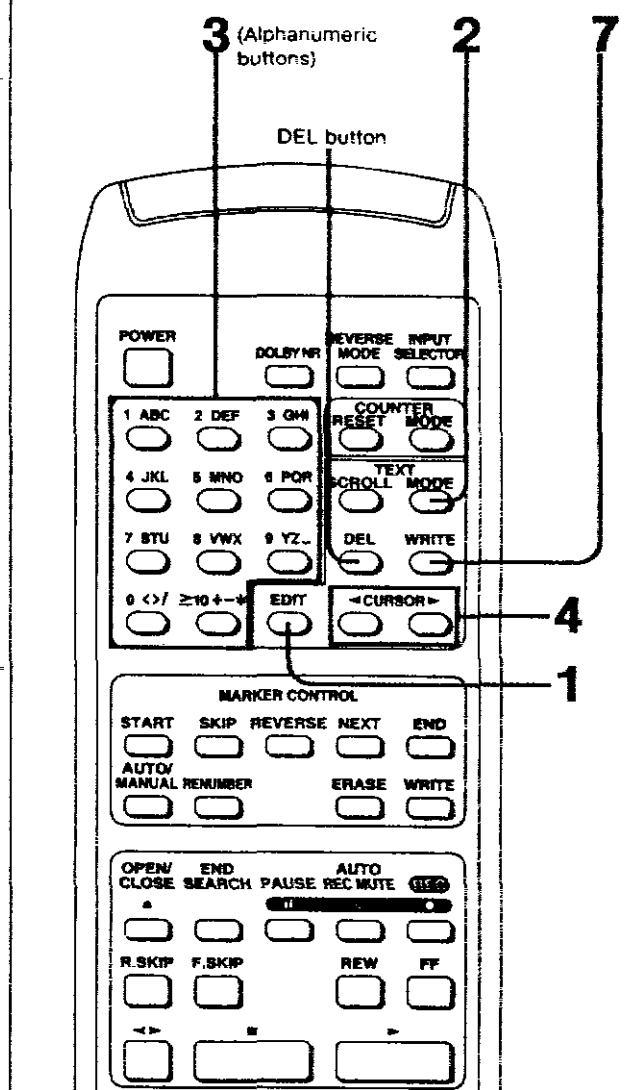


Up to 40 characters can be entered in each TEXT line. (If more than 8 characters are displayed, the leftmost character of the line is scrolled to the left.)

Note

- No text information can be written onto the following types of DCC tapes:
 - Commercially sold music tapes.
 - Blank unrecorded tapes.
 - Tape onto which no START marker has been written.
- Set the erasure-protect switch and safety tab on the recordable DCC tape to the record position. (See page 29.)
- Use an already renumbered tape. (See page 24.)
- You cannot select the desired tracks by their track title written onto the tape.

(With Remote Control Only)



Alphanumeric buttons

Each time an alphanumeric button is pressed, the alphanumeric character above the button is displayed in the following order.

(For example) 1 ABC → A → B → C → 1

For your reference

- If you want to enter a space, select the underline mark " _ " by pressing the "9 YZ _" button.
- The characters "≥10" of the "≥10+ -※" button is not displayed.

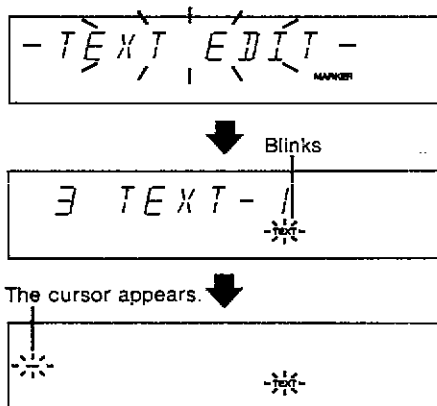
Before operation

Access the beginning of the desired track onto which you want to write text information, using the R.SKIP or F.SKIP button. Then, press the  button.

Example:

To write the track title "TAKE IT EASY" in the TEXT 3 line of the third track.

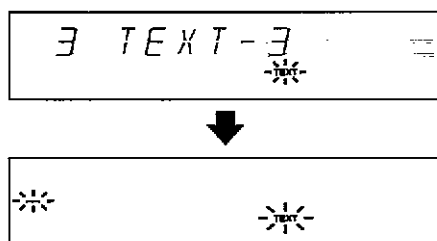
1 Press EDIT.



2 Press TEXT MODE to select the desired TEXT line.

Each time this button is pressed, the display is changed in the following order:

TEXT 1 → TEXT 2 → TEXT 3 → TEXT 4

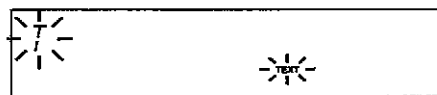


3 Press the alphanumeric button to display the desired character.

7 STU

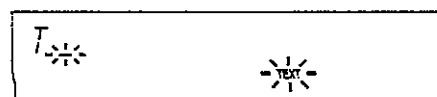
In this example, press the "7 STU" button. Each time this button is pressed, the character changes in the following order:

S → T → U → 7



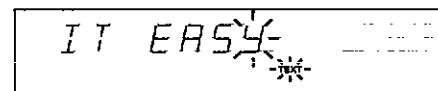
4 Press CURSOR ► (right one).

The cursor moves to the right.



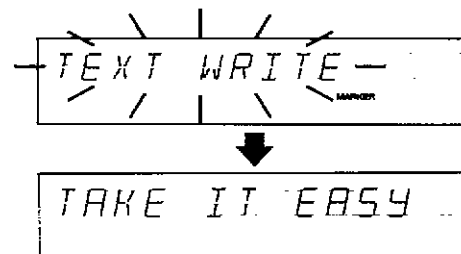
5 Repeat steps 3 and 4 to enter other characters.

To enter a space between characters, move the cursor without entering a character or select " " with the "9YZ_" button. (You cannot enter a space at the beginning of a line.)



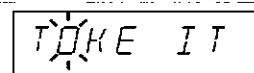
6 Repeat steps 2-5 to enter characters in TEXT 1, 2 and 4.

7 Press WRITE to write the text information onto the tape.

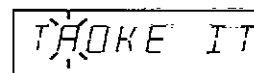


To edit character of information

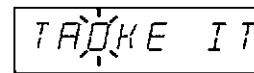
① Press CURSOR ◀ or ▶ to move the cursor to the incorrect character.



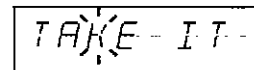
② Enter the correct character. (See operation step 3 above.)



③ Press CURSOR ◀ or ▶ to move the cursor to the incorrect character.



④ Press DEL.
The character is deleted without leaving any spaces.



To correct text information written onto the tape

Display the text information to be corrected. After correcting, press the WRITE button.

See page 13 on how to change the display of text information written onto the tape.

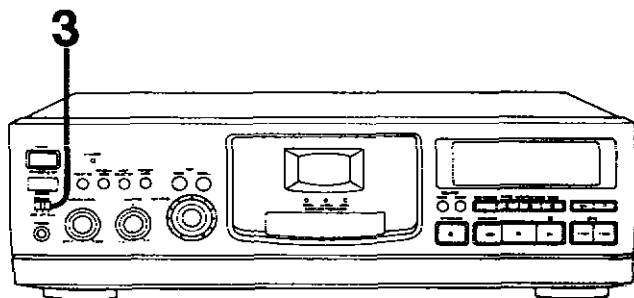
Playback and recording with timer

Using the optional timer (or tuner with a timer) enables you to perform playback of tape or record a broadcast with a tuner (or BS tuner) at a pre-programmed time.

For timer playback

Preparation

After the connections are made as instructed on page 9, set your amplifier to the tape playback mode.



1 Make preparations for playback on the deck.

DCC For DCC tape playback, follow the operation steps 1–3 described on page 10.

ACC For ACC tape playback, follow the operation steps 1–4 described on page 11.

2 Set the timer to the desired time for playback and complete the timer settings.

(The deck and components connected to the timer will be turned off.)

For further information about timer setting, refer to the Operating Instructions of your component.

3 Set TIMER selector to "PLAY".

(At the pre-programmed time, playback starts automatically.)

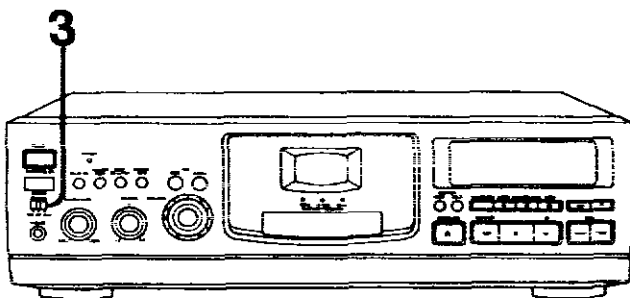
After Timer playback is finished,

Be sure to return the TIMER selector to "OFF".

For timer recording **DCC only**

Preparation

After the connections are made as instructed on page 9, set your amplifier and tuner (or BS tuner) to the broadcast reception mode.



1 Make preparations for recording.

Follow steps 1–3 described on page 16.

2 Set the timer to the desired time for recording and complete the timer settings.

(The deck and components connected to the timer will be turned off.)

For further information about timer setting, refer to the Operating Instructions of your component.

3 Set TIMER selector to "REC".

(At the pre-programmed time, recording starts automatically.)

After recording with the timer is finished,

- Be sure to return the TIMER selector to the "OFF" position.
- The END marker is not automatically written at the end of the recording. If you intend to make "Append Editing" starting at the end of a recording, use MANUAL writing to write the END marker. (See page 23.)

Note

- To perform Append Editing using the timer, set the timer after END SEARCH is finished. (See page 18.)
- It takes about 30 seconds for the deck to start recording after the timer is turned on at a pre-programmed time. Therefore, in order not to miss recording the beginning of a broadcast, set the recording start time 30 seconds or more before the actual time of a broadcast according to your timer's timer setting function.

About the DCC/ACC tape

DCC Tape: Abbreviated for Digital Compact Cassette Tape

ACC Tape: Abbreviated for Analog Compact Cassette Tape

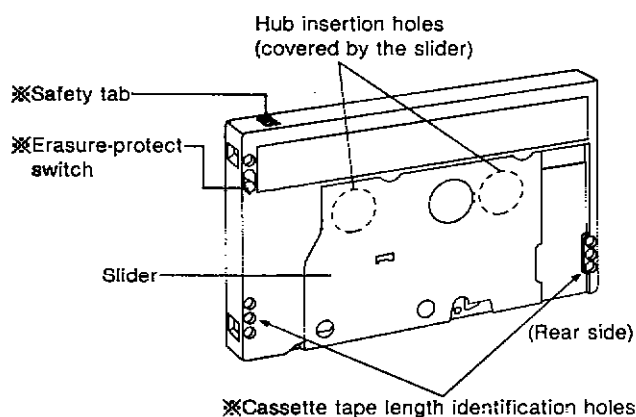
About the DCC tape

There are two types of DCC tapes.

- ① Commercially sold music tapes
- ② Blank DCC tapes for recording of 45, 60, 75 and 90 minutes, etc.

Construction of a DCC tape

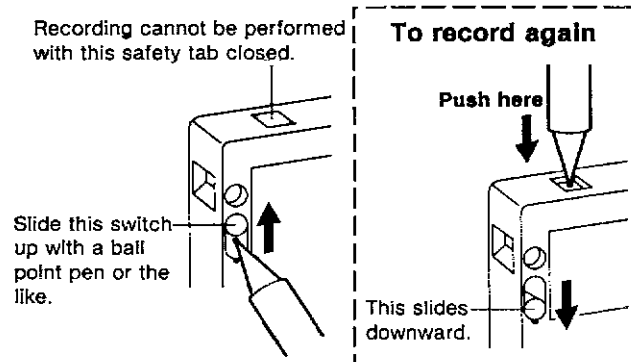
Unlike an ACC, a DCC tape is sealed. It is protected by a slider. The slider protects the tape and hub holes from dust, which may cause possible dropouts (digital signal losses), and also prevents any slack in the tape.



※(only on the recordable DCC tape)

Protection of tape from accidental erasure

A recorded tape can be protected against any accidental erasure by sliding the erasure-protect switch on the rear side of the cassette up to set the safety tab to the Protect position (closed position) as shown in the diagram.



Handling precautions

- Be careful not to damage the cassette tape length identification holes. Damaged holes may cause possible malfunction of the deck.
- Do not attempt to open the slider of the DCC tape in order to pull out or touch the tape.
- Be careful not to drop the cassette or subject it to strong vibrations.

Only use DCC tapes in a deck bearing the "DCC" logo. Do not load DCC tapes into an ordinary analog cassette deck. If this occurs, the tape may be damaged.

ACC tapes

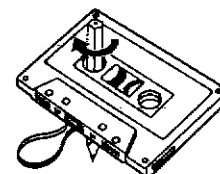
Besides normal ACC tapes, this deck can also use CrO₂ and metal tapes. (The automatic tape selection function equipped with this deck determines the types of ACC tape.)

Note for using ACC tapes longer than 90-minute

It is not recommended that tapes longer than 90 minutes be used, because the tapes are too thin for adequate tension during any tape movement (i.e. repeated stop, fast forwarding or rewind). Therefore these tapes may be stretched and tangled up in the head assembly (the heads, capstans and pinch rollers) of the deck.

Please take up the tape slack.

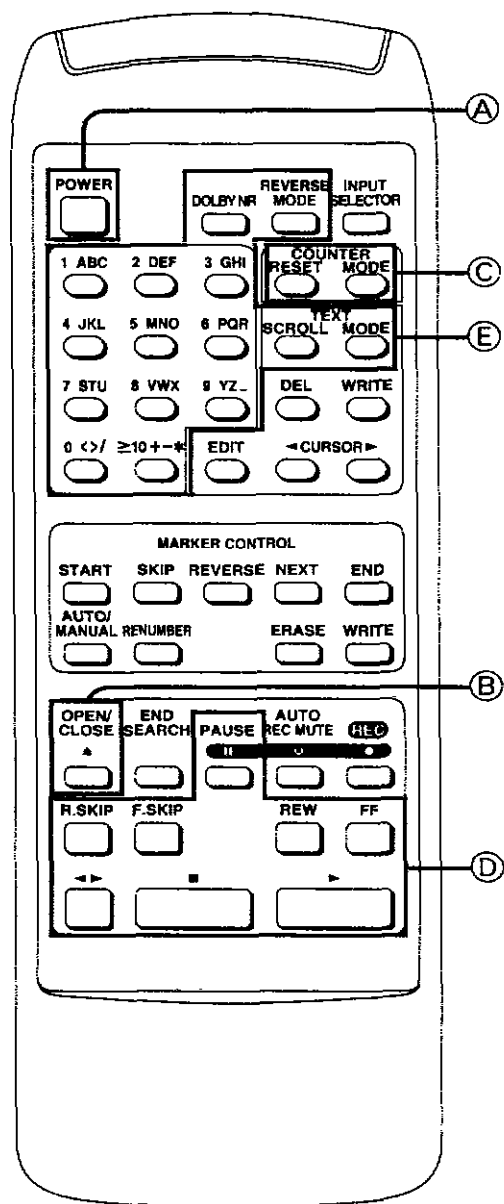
Possible damage to the tape may occur if there is too much slack.



Precautions on DCC/ACC tape storage

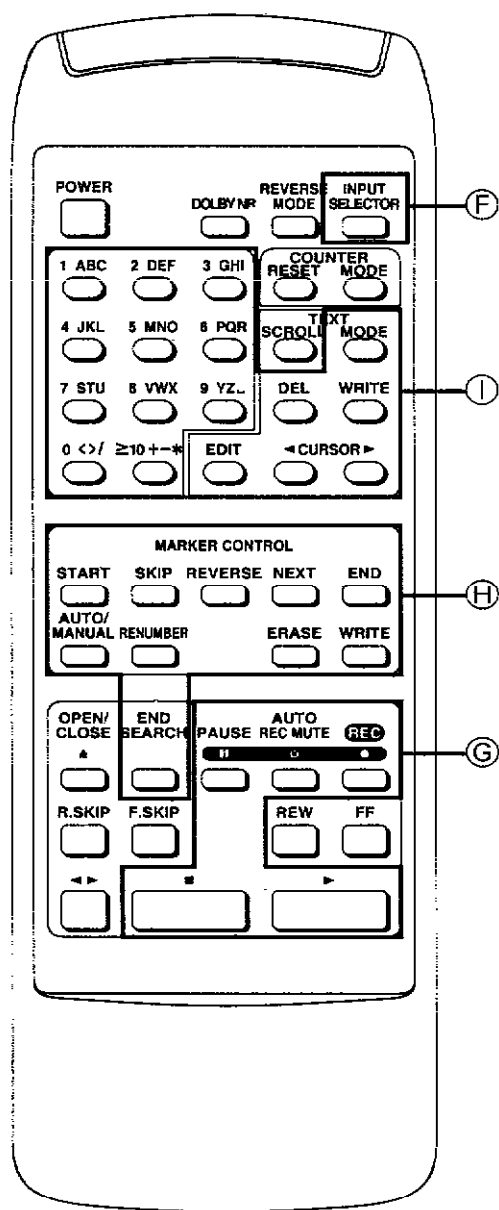
- Store the DCC/ACC tapes in their storage case.
- Avoid storing the DCC/ACC tapes in the following places:
 1. A place with high temperature (35°C or more) and humidity (80% or more).
 2. Near a magnetic field generated by speakers or on a TV set.
 3. A place exposed to direct sunlight.

Quick reference for remote control use



Common operations			page
(A)	Turn the unit on and off	POWER 	10
(B)	Cassette compartment OPEN/CLOSE	OPEN/CLOSE 	10
(C)	Selecting time information <i>DCC only</i>	COUNTER MODE 	14
	Resetting the tape counter	COUNTER RESET 	14

For playback			page
(D)	To start playback		10
	To temporarily interrupt playback	PAUSE 	10
	To stop playback		10
	To rewind or fast-forward	REW FF 	12
	To change direction of the tape		12
(E)	To perform Skip play	R.SKIP F.SKIP 	14
	To select the type of Dolby NR system <i>ACC only</i>	DOLBY NR 	11
	To select the reverse mode	REVERSE MODE 	10
	To access the desired track by selecting the track No.	1 ABC ~ 2-10 + - 0 	15
	To display text information such as album title, etc. <i>DCC only</i>	TEXT MODE 	13
	To scroll text information <i>DCC only</i>	TEXT SCROLL 	13



<i>For recording DCC only</i>			<i>page</i>
F	To select the recording input mode	INPUT SELECTOR	16
	To set the deck to the recording standby mode	REC	16
	To start recording	[RECORD]	16
G	To temporarily interrupt recording	PAUSE	17
	To stop recording	[STOP]	17
	To make an unrecorded segment	AUTO REC MUTE	19

<i>For marker editing DCC only</i>			<i>page</i>
H	To select the AUTO or MANUAL mode of marker writing	AUTO/MANUAL	16
	For the START marker writing or erasure mode	START	22,25
	For the SKIP marker writing or erasure mode	SKIP	22,25
	For the REVERSE marker writing mode	REVERSE	23
	For the NEXT marker writing mode	NEXT	24
	For the END marker writing mode	END	23
	To write markers	WRITE	22-24
	To erase markers	ERASE	25
	To renumber	RENUMBER	24
	For END SEARCH	END SEARCH	18
I	To set the text information input mode	EDIT	27
	To select text information mode	TEXT MODE	13,27
	To enter characters	1 ABC ~ ≥10 +-*	27
	To move the cursor	←CURSOR→	27
	To write text information on the tape	WRITE	27
	To delete a character	DEL	27

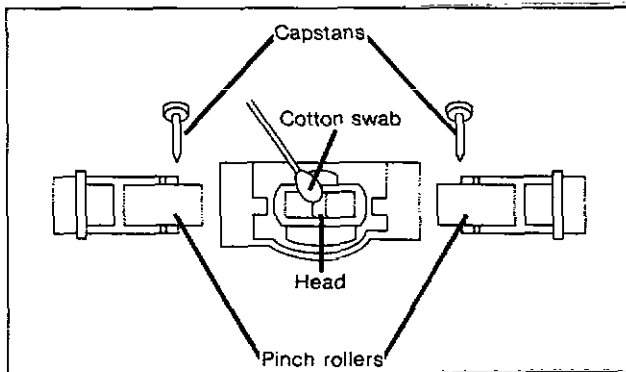
Maintenance

Head assembly care

Any dust or dirt on the head assembly (head, capstan and pinch roller) will interfere with the sound quality of recording and playback. To assure good sound quality, be sure to clean the heads after approximately every 10 hours of use.

- If the sound quality is not improved after the head assembly is cleaned, the tape should be changed because the tape may be worn out or old. Use a new tape instead.
- If the sound quality is not improved after cleaning the head assembly and changing the tape, consult your dealer.

Use a Cleaning Kit (sold separately) to clean the head assembly.



Note

- Do not touch the head assembly with your fingers.
- Use a cotton swab for cleaning the head assembly.

For your reference

You can also use a Cleaning Tape (sold separately) for Analog Cassette.

Do not use a demagnetizer

Using a demagnetizer for an analog cassette deck may damage the head assembly of this deck.

To clean the cabinet of the deck

(For your safety, disconnect the power cord from the AC wall outlet.)

To clean the cabinet, wipe it with a soft cloth.

For persistent stains on the surface of this deck, use a damp cloth with a mild detergent and then wipe with a soft, dry cloth.

- Never apply any solution such as alcohol or paint thinner.
- If you use a chemically treated cloth, follow the directions carefully.

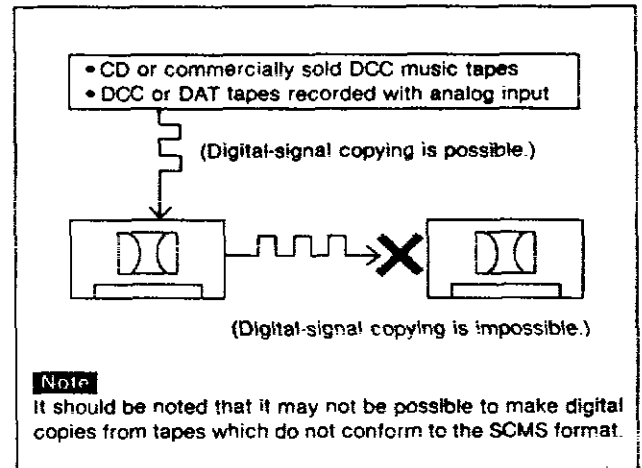
SCMS

(Serial Copy Management System)

Important notice on recording of digital source

The deck has adopted an SCMS (Serial Copy Management System) which prohibits unrestricted copying of digitally-recorded tapes.

The SCMS allows only one generation of digital signal-copy CDs and digitally recorded tapes to another tape for protection of copyrights. (This deck stops recording operation.)



For your reference

You can make analog input recordings from a digital tape when digital recordings cannot be made. (The SCMS format does not apply to this situation.)

Technical specifications

■ Digital Recording/Playback

Tape recording system	Stationary head type DCC
Sampling frequencies	
(Analog input recording)	44.1 kHz
(Playback/Digital input recording)	48 kHz, 44.1 kHz, 32 kHz (selected automatically)
No. of quantizing bits	16-bit linear
Audio coding system	PASC
No. of channels	2-channel (stereo)
Frequency response	
(44.1 kHz sampling frequency)	10 Hz—20 kHz (± 0.2 dB)
(48 kHz sampling frequency)	10 Hz—22 kHz (± 0.2 dB)
(32 kHz sampling frequency)	10 Hz—14.5 kHz (± 0.2 dB)
Total harmonic distortion	
(Playback)	0.007% or less (1 kHz, 0 dB)
(Recording/playback)	0.009% or less (1 kHz, 0 dB)
Dynamic range	
(Playback)	95 dB or more (A-weighted)
(Recording/playback)	90 dB or more (A-weighted)
S/N	
(Playback)	95 dB or more (A-weighted)
(Recording/playback)	90 dB or more (A-weighted)
Channel separation	
(Playback)	95 dB or more (1 kHz)
(Recording/playback)	80 dB or more (1 kHz)
Wow and flutter	Below measurable limit

■ Analog Cassette Tape Playback

Deck system	Analog compact cassette
Track system	4-track, 2-channel (Stereo)
Frequency response (Dolby NR off)	
Normal	30 Hz—15 kHz (DIN)
CrO ₂	30 Hz—16 kHz (DIN)
Metal	30 Hz—17 kHz (DIN)
S/N	
(Signal level = 250 nwb/m, CrO ₂ type tape)	
NR off	56 dB (A-weighted)
Dolby B NR on	65 dB (CCIR)
Dolby C NR on	74 dB (CCIR)
Wow and flutter	0.08% (WRMS) $\pm 0.2\%$ (DIN)

■ Terminals

Analog input	
Input sensitivity	100 mV
Input impedance	47 k Ω
Analog output (fixed)	
Output level	500 mV (DCC — 12 dB)
Maximal output level	2 V (DCC 0 dB)
Output impedance	1 k Ω
Headphones output	
Maximum level	30 mW + 30 mW (32 Ω load)
Load impedance range	8—600 Ω
Digital input	Optical 2 input (with select SW)
Digital output	Optical

■ Mechanism

Heads	20-channel thin film head
Tape drive system	Single capstan drive (Auto reverse)
Tape drive motors	
Capstan	FG servo motor
Reel table	DC motor
Tape speed	4.76 cm/s (1-7/8 ips.)
Fast forward and rewind times	Approx. 60 sec. with D-60 cassette tape

■ General

Power consumption	
For United Kingdom, Europe, Australia and N.Z.	33 W
For others	35 W
Power supply	
For United Kingdom, Europe, Australia and N.Z.	AC 50 Hz/60 Hz, 230—240 V
For others	AC 50/60 Hz, 110 V/127 V/220 V/240 V
Dimensions (W × H × D)	430 × 136 × 334 mm
Weight	6.5 kg

Notes:

1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

For United Kingdom only

This apparatus was produced to BS 800.

MASH is a trademark of NTT.

Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your Technics dealer for instructions

<i>Problem</i>	<i>Possible cause(s)</i>	<i>Suggested remedy</i>	<i>Page</i>
<i>Problem noted at all times</i>			
The unit is placed in the record or play mode as soon as the power is switched on.	TIMER selector is set to the "REC" or "PLAY" position.	• Press ■ (STOP) button and set TIMER selector to the "OFF" position.	28
Tape moves but no sound is heard.	Amplifier's volume control is set to LOW.	• Adjust amplifier's volume with its volume control.	—
	Amplifier's Input selector is not at correct position.	• Set the selector to the correct position.	—
Noise or distortion in playback sound	Recording level was excessively high or low.	• Record again at proper recording level (if the tape was recorded by analog recording).	18
Playback sound is interrupted.	Head assembly is dirty.	• Clean the head assembly with the cleaning kit (sold separately) and record again.	32
	Cassette tape is old.	• Use a new cassette tape.	
<i>Problem while DCC tape is used</i>			
Track Nos. or play elapsed time is not displayed.	Track No. has not been written properly.	• Renumber.	24
	DCC tape is not played from its beginning.	• Press R.SKIP button to rewind the tape to its beginning.	14
Search function does not operate correctly.	START marker has not been written correctly.	• Rewrite START marker.	22
Tape stops at a certain position during playback.	END marker has been written to the position.	• Press FF button to advance the tape and press ► button.	12
Recording cannot be performed.	Cassette's safety tab is closed.	• Slide the safety tab to the record position.	29
Digital input recording cannot be performed.	INPUT Selector is set to the "ANALOG" position.	• Set it to the "DIGITAL 1" or "DIGITAL 2" position.	16
	"DIGITAL 1" or "DIGITAL 2" indicator blinks.	• Check connections of optical fiber cables.	8
		• Power an input source appliance.	—
	Digital copy prohibit indicator is lit.	• Make analog input recording	16, 32
Analog input recording cannot be performed.	Incorrect connections with your stereo amplifier.	• Connect correctly.	8
	REC LEVEL control is set to the "0" position.	• Adjust recording (input) level with REC LEVEL control.	18
	INPUT selector is set to the "DIGITAL 1" or "DIGITAL 2" position	• Set it to the "ANALOG" position.	16
Marker or text information cannot be written to a blank DCC tape.	Cassette's safety tab is closed.	• Slide the safety tab to the record position.	29

<i>Problem</i>	<i>Possible cause(s)</i>	<i>Suggested remedy</i>	<i>Page</i>
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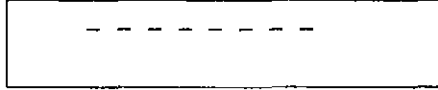
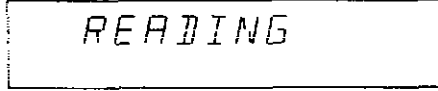
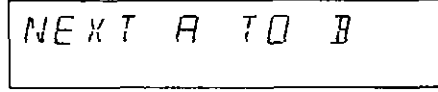
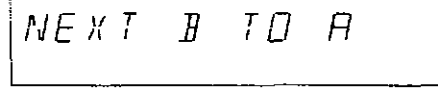
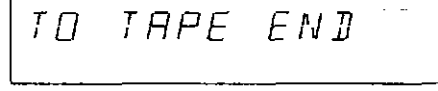
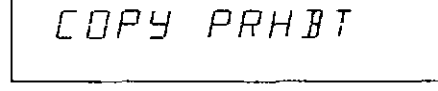
Problem while ACC tape is used

Playback sound of ACC tape is poor.	Incorrect setting of Dolby NR.	• Select the same type of Dolby NR system that was used for the recording.	11
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Problem while Remote Control is used

Remote Control does not function correctly.	Cassette tape is not loaded correctly.	• Load cassette tape correctly.	10
	Batteries are low.	• Replace the batteries.	7
	The deck does not receive signal from the Remote Control.	• Check both distance and angle between the Remote Control and the deck. Check that there is no obstacle between them and use the Remote Control at a correct position.	7

Explanation of messages appearing on the display

	Indicates that the DCC or ACC tape is not loaded. 357
	There is no readable time information on the DCC tape. This will be displayed when no time information has been written onto the tape. (See page 14.)
	Indicates that no text information has been written onto the DCC tape or the text information is not read yet. (See page 13.)
	Indicates that the deck is reading the text information written onto the DCC tape.
	Indicates that the DCC tape is being fast forwarded automatically from the position marked with the NEXT marker on side A to the beginning of side B. When this display appears during playback, side B playback starts from its beginning. (See pages 21 and 24.)
	Indicates that the DCC tape is being fast forwarded automatically from the end of recording on side B to the beginning of side A (provided that the deck is set to the  mode). In this case, playback starts from the beginning of side A. (This is not displayed when a tape that has been recorded with this deck is used.)
	Indicates that the DCC tape playback is finished and the tape is being fast forwarded to the end of side B (provided that the deck is set to the  mode). The tape stops at the end of side B. (When the DCC tape recorded on this deck is used, this message does not appear.)
	Indicates that digital-signal copying is prohibited. Recording stops automatically when this display appears. (See page 32.)
The "dcc" indicator on the cassette compartment cover 	This indicator lights up when the deck is turned on or a DCC tape is loaded into the deck. If an ACC tape is loaded, this indicator goes off.

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